



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-1151; Project Identifier MCAI-2020-01603-T]**

**RIN 2120-AA64**

### **Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain De Havilland Aircraft of Canada Limited Model DHC-8-400 series airplanes. This proposed AD was prompted by a report that electrical bonding jumpers had been installed on fuel scavenge lines even after the removal was required by previous AD rulemaking and that electrical bonding jumpers may have been installed in production or in service at other locations. This proposed AD would require an inspection for electrical bonding jumpers and brackets on the fuel scavenge and vent lines at specific wing locations, and if installed, removal or modification of those jumpers and brackets. This proposed AD would also require a records check to determine if certain maintenance tasks were performed and removal, modification, or rework if those tasks were performed. This proposed AD would also prohibit the use of earlier versions of certain maintenance tasks. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; North America (toll-free): 855-310-1013, Direct: 647-277-5820; email [thd@dehavilland.com](mailto:thd@dehavilland.com); Internet [dehavilland.com](http://dehavilland.com). You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

### **Examining the AD Docket**

You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-1151; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Joseph Catanzaro, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7366; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-1151; Project Identifier MCAI-2020-01603-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Joseph Catanzaro, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7366; email

9-avs-nyaco-cos@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued TCCA AD CF-2020-01, dated January 14, 2020 (TCCA AD CF-2020-01) (also referred to after this as the MCAI), to correct an unsafe condition for certain De Havilland Aircraft of Canada Limited Model DHC-8-400, -401, and -402 airplanes. You may examine the MCAI in the AD docket at regulations.gov by searching for and locating Docket No. FAA-2022-1151.

This proposed AD was prompted by a report that electrical bonding jumpers had been installed on fuel scavenge lines even after the removal was required by TCCA AD CF-2010-31, dated September 3, 2010 (which corresponds to FAA AD 2011-13-06, Amendment 39-16729 (76 FR 37258, June 27, 2011) (AD 2011-13-06)). AD 2011-13-06 required modifications to the fuel system to address a potential ignition source within the fuel system. Subsequent investigation showed that electrical bonding jumpers may have been installed in production or in service at other locations on the fuel scavenge and vent lines. If installed, these electrical bonding jumpers could affect the integrity of the fuel scavenge and vent lines' electrical bonding paths. The FAA is proposing this AD to address altered electrical bonding paths, which may lead to lightning strike-induced ignition of the fuel tank. See the MCAI for additional background information.

Since the electrical bonding jumpers may have been installed during the accomplishment of certain maintenance tasks, this proposed AD would prohibit the use of those maintenance tasks. Those prohibited tasks may have been accomplished at any point after the airplane was produced. For airplanes on which any of the prohibited tasks were accomplished, this AD would require re-accomplishing the inspection for electrical bonding jumpers and brackets on the fuel scavenge and vent lines at specific wing

locations and removal or modification of those bonding jumpers and brackets; or rework using a method approved by the Manager, New York ACO Branch, FAA; or TCCA; or De Havilland Aircraft of Canada Limited's TCCA Design Approval Organization (DAO); depending on configuration.

### **Related Service Information Under 1 CFR Part 51**

De Havilland Aircraft of Canada Limited has issued Bombardier Service Bulletins 84-28-29; and 84-28-30; both dated October 17, 2018; which describe procedures for an inspection of certain wing stations in the left and right wings for the presence of brackets and electrical bonding jumpers on the fuel scavenge and vent lines, and if installed, removal or modification of those electrical bonding jumpers and brackets. These documents are distinct because they apply to different airplane configurations.

De Havilland Aircraft of Canada Limited has also issued the following Bombardier service information, which describes fuel system limitations or airworthiness limitations for fuel tank systems. These documents are distinct because they apply to different airplane configurations.

- (Bombardier) Q400 Dash 8 Aircraft Maintenance Manual (AMM) Temporary Revision (TR) 28-170, dated November 2, 2018.

- (Bombardier) Q400 Dash 8 AMM TR 28-171, dated November 2, 2018.
- (Bombardier) Q400 Dash 8 AMM TR 28-166, dated November 2, 2018.
- (Bombardier) Q400 Dash 8 AMM TR 28-167, dated November 2, 2018.
- (Bombardier) Q400 Dash 8 AMM TR 28-168, dated November 2, 2018.
- (Bombardier) Q400 Dash 8 AMM TR 28-169 dated November 2, 2018.
- (Bombardier) Q400 Dash 8 AMM TR 28-163, dated August 1, 2018
- (Bombardier) Q400 Dash 8 Maintenance Task Card Manual (MTCM)

Maintenance Task Card 000-28-520-704 (Config A01), Detailed Inspection of the

Teflon™ Sleeve on the Fuel Tank Vent Line (LH), Revision 43, Amendment 0001, dated August 1, 2018.

- (Bombardier) Q400 Dash 8 MTCM Maintenance Task Card 000-28-620-704 (Config A01), Detailed Inspection of the Teflon™ Sleeve on the Fuel Tank Vent Line (RH), Revision 43, Amendment 0001, dated August 1, 2018.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **FAA's Determination**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the MCAI and service information referenced above. The FAA is proposing this AD because the FAA evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop on other products of the same type design.

### **Proposed AD Requirements in this NPRM**

This proposed AD would require accomplishing the actions specified in the service information already described. This proposed AD would also require a records check to determine if certain maintenance tasks were performed. This proposed AD would also prohibit the use of earlier versions of certain maintenance tasks.

### **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 53 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

### Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Up to 94 work-hours X \$85 per hour = Up to \$7,990	\$0	\$7,990	\$423,470

### Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
Up to 40 work-hours X \$85 per hour = Up to \$3,400	\$100	Up to \$3,500

The FAA has received no definitive data on which to base the cost estimates for the on-condition rework specified in this proposed AD.

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national

Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.):** Docket No. FAA-2022-1151; Project Identifier MCAI-2020-01603-T.

#### **(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.



**(c) Applicability**

This AD applies to De Havilland Aircraft of Canada Limited (Type Certificate previously held by Bombardier, Inc.) Model DHC-8-400, -401, and -402 airplanes, certificated in any category, having serial numbers 4001, 4003, and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 28, Fuel System.

**(e) Unsafe Condition**

This AD was prompted by a report that electrical bonding jumpers had been installed on fuel scavenge lines even after the removal was required by previous AD rulemaking and electrical bonding jumpers may have been installed in production or in service at other locations. The FAA is issuing this AD to address altered electrical bonding paths, which may lead to lightning strike-induced ignition of the fuel tank.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Definition**

For the purposes of this AD, “prohibited tasks” are identified as any task identified in paragraph (j) of this AD and any procedure or task that specifies fuel tank access using non-manufacturer-approved procedures.

**(h) Inspection and Modification**

(1) For airplanes having serial numbers 4001, and 4003 through 4118 inclusive: Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, inspect wing stations  $\pm 79.7$ ,  $\pm 136.3$ ,  $\pm 173.2$ , and  $\pm 299.019$  in the left and right wings for the presence of brackets and electrical bonding jumpers installed on the fuel scavenge and vent lines, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-28-29, dated October 1, 2018. If installed, remove or modify the electrical bonding jumpers and brackets as applicable, before further flight, in

accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-28-29, dated October 17, 2018.

(2) For airplanes having serial numbers 4119 through 4597 inclusive: Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, inspect wing stations  $\pm 79.7$ ,  $\pm 136.3$ , and  $\pm 173.2$  in the left and right wings for the presence of brackets and electrical bonding jumpers on the fuel scavenge and vent lines, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-28-29, dated October 1, 2018. If installed, remove or modify the electrical bonding jumpers and brackets as applicable, before further flight, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-28-30, dated October 17, 2018.

**(i) Verification and Rework for the Existing Maintenance Program**

(1) For airplanes having serial numbers 4001, and 4003 through 4597 inclusive, on which the actions required by paragraph (h)(1) or (2) of this AD have been done before the effective date of this AD: Within 60 days after the effective date of this AD, review the airplane maintenance records to confirm if any of the prohibited tasks (defined in paragraph (g) of this AD) were accomplished during or after compliance with paragraph (h)(1) or (2) of this AD. If any of the prohibited tasks were accomplished during or after compliance with paragraph (h)(1) or (2) of this AD, or if it cannot be conclusively confirmed that they were not accomplished during or after compliance with paragraph (h)(1) or (2) of this AD: Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, do the actions required by paragraph (h)(1) or (2) of this AD, as applicable.

(2) For airplanes having serial numbers 4598 and subsequent, with an airplane date of manufacture, as identified on the identification plate of the airplane, dated before the effective date of this AD: Within 60 days after the effective date of this AD, review

the airplane maintenance records to confirm if any of the prohibited tasks (defined in paragraph (g) of this AD) were accomplished on or after the airplane date of manufacture. If any of the prohibited tasks were accomplished on or after the airplane date of manufacture, or if it cannot be conclusively confirmed that they were not accomplished on or after the airplane date of manufacture: Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, obtain and follow instructions for rework using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or De Havilland Aircraft of Canada Limited's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(j) Maintenance Task Prohibitions**

For all airplanes: As of the effective date of this AD, comply with the prohibitions specified in paragraphs (j)(1) and (2) of this AD.

(1) It is prohibited to use the Bombardier aircraft maintenance manual (AMM) tasks identified in paragraphs (j)(1)(i) through (vii) of this AD, which are specified in the Bombardier Q400, PSM 1-84-2, Revision 63, dated October 5, 2018, or earlier revisions of these tasks. Temporary Revisions (TRs) including these AMM tasks, dated November 2, 2018, or earlier, are also prohibited for use except as specified in paragraph (j)(1)(i) through (vii) of this AD.

(i) Task 28-12-01-000-801, Removal of the Inboard Vent Line, with the exception of (Bombardier) Q400 Dash 8 AMM TR 28-170, dated November 2, 2018.

(ii) Task 28-12-01-400-801, Installation of the Inboard Vent Line, with the exception of (Bombardier) Q400 Dash 8 AMM TR 28-171, dated November 2, 2018.

(iii) Task 28-11-06-000-801, Removal of the Motive Flow Lines, with the exception of (Bombardier) Q400 Dash 8 AMM TR 28-166, dated November 2, 2018.

(iv) Task 28-11-06-400-801, Installation of the Motive Flow Lines, with the exception of (Bombardier) Q400 Dash 8 AMM TR 28-167, dated November 2, 2018.

(v) Task 28-11-16-000-801, Removal of the Scavenge Flow Lines, with the exception of (Bombardier) Q400 Dash 8 AMM TR 28-168, dated November 2, 2018.

(vi) Task 28-11-16-400-801, Installation of the Scavenge Flow Lines, with the exception of (Bombardier) Q400 Dash 8 AMM TR 28-169 dated November 2, 2018.

(vii) Task 28-10-00-280-806, Detailed Inspection of the Teflon™ Sleeve on the Fuel Tank Vent Line, LH and RH (FSL #284000-406), with the exception of (Bombardier) Q400 Dash 8 AMM TR 28-163, dated August 1, 2018.

(2) It is prohibited to use the Bombardier Q400 Dash 8 Maintenance Task Card Manual (MTCM) task cards identified in paragraphs (j)(2)(i) and (ii) of this AD that are specified in the Bombardier Q400 Dash 8 MTCM, PSM 1-84-7TC, Revision 43, dated May 5, 2018, or earlier revisions or amendments of these task cards. MTCM task card revisions or amendments dated August 1, 2018, or earlier, are also prohibited for use, except as specified in paragraphs (j)(2)(i) and (ii) of this AD.

(i) Bombardier Q400 Dash 8 MTCM Maintenance Task Card 000-28-520-704 (Config A01), Detailed Inspection of the Teflon™ Sleeve on the Fuel Tank Vent Line (LH), with the exception of (Bombardier) Q400 Dash 8 MTCM Maintenance Task Card 000-28-520-704 (Config A01), Detailed Inspection of the Teflon™ Sleeve on the Fuel Tank Vent Line (LH), Revision 43, Amendment 0001, dated August 1, 2018.

(ii) Bombardier Q400 Dash 8 MTCM Maintenance Task Card 000-28-620-704 (Config A01), Detailed Inspection of the Teflon™ Sleeve on the Fuel Tank Vent Line (RH), with the exception of (Bombardier) Q400 Dash 8 MTCM Maintenance Task Card 000-28-620-704 (Config A01), Detailed Inspection of the Teflon™ Sleeve on the Fuel Tank Vent Line (RH), Revision 43, Amendment 0001, dated August 1, 2018.

## **(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or TCCA; or De Havilland Aircraft of Canada Limited's TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

## **(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA AD CF-2020-01, dated January 14, 2020, for related information. This MCAI may be found in the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-1151.

(2) For more information about this AD, contact Joseph Catanzaro, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7366; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

(3) For service information identified in this AD, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; North America (toll-free): 855-310-1013, Direct: 647-277-5820; email [thd@dehavilland.com](mailto:thd@dehavilland.com); Internet [dehavilland.com](http://dehavilland.com). You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on August 31, 2022.

Christina Underwood, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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